AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of forming a capacitor on a substrate in a semiconductor device, comprising:

forming a first layer of a conductive material over said substrate;

forming a second layer of a dielectric over said first layer;

contacting said second layer with hydrogen, oxygen and nitrous oxide gases so as to form an oxidation layer over said second layer; and

forming a third layer of conductive material over said second layer and contiguous with said oxidation layer.

2. (Original) The method of claim 1, wherein said second layer is formed to a thickness not exceeding about 60 Angstroms.

3. (Original) The method of claim 1, wherein said second layer is formed to a thickness not exceeding about 50 Angstroms.

4. (Original) The method of claim 3, wherein said second layer is formed to a thickness within the range of about 45 to 50 Angstroms.

5. (Original) The method of claim 1, wherein the ratio of nitrous oxide to oxygen and hydrogen respectively is in the range of about .05 to about 1.7.

6. (Original) The method of claim 5, wherein said contacting is performed with a gas flow rate of at least about 0.5 slm for said nitrous oxide.

7. (Original) The method of claim 6, wherein said contacting is performed with a gas flow rate of at least about 2.5 slm for said nitrous oxide.

8. (Original) The method of claim 7, wherein said contacting is performed with a gas flow rate of at least about 5 slm for said nitrous oxide.

9. (Original) The method of claim 1, wherein said contacting is performed at a temperature within the range of about 600 to 1000°C.

10. (Original) The method of claim 9, wherein said contacting is performed at a temperature within the range of about 700 to 900 °C.

11. (Original) The method of claim 10, wherein said contacting is performed at a temperature within the range of about 700 to 800 °C.

12. (Original) The method of claim 1, wherein said oxidation layer is formed so as to be thinner than said dielectric layer.

13. (Original) The method of claim 12, wherein said oxidation layer is formed to a thickness less than about 5 Angstroms.

14. (Original) The method of claim 12, wherein said oxidation layer is formed to a thickness less than about 3 Angstroms.

15. (Original) The method of claim 1, wherein said contacting is performed is performed with a gas flow rate within the range of about 1 to 15 slm for each of said hydrogen, oxygen and nitrous oxide gases.

16. (Original) The method of claim 15, wherein said contacting is performed with a gas flow rate within the range of about 2 to 10 slm for each of said hydrogen, oxygen and nitrous oxide gases.

17. (Original) The method of claim 16, wherein said contacting is performed at a temperature within the range of about 600 to 1000°C.

18. (Original) The method of claim 17, wherein said contacting is performed at a gas flow rate for said oxygen which is within the range of about 4 to 8 slm.

19. (Original) The method of claim 18, wherein said contacting is performed at a gas flow rate for said hydrogen which is within the range of about 4 to 8 slm.

20. (Original) The method of claim 19, wherein said contacting is performed at a gas flow rate within the range of about 4 to 8 slm for each of said oxygen and hydrogen.

21. (Original) The method of claim 17, wherein said contacting is performed at a gas flow rate within the range of about 2.5 to 10 slm.

22. (Original) The method of claim 21, wherein said contacting is performed at a gas flow rate within the range of about 6 to 10 slm.

23. (Original) The method of claim 17, wherein said contacting is performed at a temperature within the range of about 700 to 800°C.

24. (Original) The method of claim 23, wherein said contacting is performed at a temperature of about 750°C.

25. (Original) The method of claim 23, wherein said contacting is performed at a gas flow rate for said hydrogen of about 6 slm.

26. (Original) The method of claim 25, wherein said contacting is performed at a gas flow rate for said oxygen of about 6 slm.

27. (Original) The method of claim 25, wherein said contacting is performed at a gas flow rate for said nitrous oxide of about 2.5 slm.

28. (Original) The method of claim 23, wherein said contacting is performed at a gas flow rate for said nitrous oxide of about 5 slm.

29. (Original) The method of claim 23, wherein said contacting is performed at a gas flow rate for said nitrous oxide of about 10 slm.

30. (Original) The method of claim 24, wherein said contacting is performed at a gas flow of about 6 slm for said hydrogen, about 6 slm for said oxygen, and about 2.5 slm for said nitrous oxide.

31. (Original) The method of claim 24, wherein said contacting is performed at a gas flow rate of about 6 slm for said hydrogen, about 6 slm for said oxygen, and about 5 slm for said nitrous oxide.

32. (Original) The method of claim 24, wherein said contacting is performed at a gas flow rate of about 6 slm for said hydrogen, about 6 slm for said oxygen, and about 10 slm for said nitrous oxide.

33. (Original) The method of claim 24, wherein said contacting is performed at a gas flow rate of about 6 slm for said hydrogen, about 6 slm for said oxygen, and within the range of about 1 to 15 slm for said nitrous oxide.

34. (Original) The method of claim 33, wherein said contacting is performed at a gas flow rate of about 6 slm for said hydrogen, about 6 slm for said oxygen, and within the range of about 2 to 10 slm for said nitrous oxide.

35. (Original) The method of claim 23, wherein said second layer is formed to a thickness of about 47 Angstroms.

36. (Original) The method of claim 24, wherein said second layer is formed to a thickness of about 47 Angstroms.

37. (Original) The method of claim 34, wherein said second layer is formed to a thickness of about 47 Angstroms.

38. (Original) The method of claim 35, wherein said oxidation layer is formed to be thinner than said dielectric layer.

39. (Original) The method of claim 36, wherein said oxidation layer is formed to a thickness less than about 5 Angstroms.

40. (Currently Amended) A method of forming a capacitor structure in a semiconductor device, comprising:

depositing a layer of silicon nitride over a conductive layer formed over a substrate;

contacting said silicon nitride layer with hydrogen, oxygen and nitrous oxide gases so as to form an oxidation layer over said silicon nitride layer; and

forming a second conductive layer on said oxidation layer.

41. (Currently Amended) The method of claim 40, ~~further comprising forming a second conductive layer over~~ wherein said oxidation layer is formed to have a smaller thickness than said silicon nitride layer.

42. (Currently Amended) The method of claim ~~41~~ 40, wherein said second conductive layer is formed of polysilicon.

43. (Original) The method of claim 40, wherein said silicon nitride layer is deposited to a thickness not exceeding about 60 Angstroms.

44. (Original) The method of claim 40, wherein said silicon nitride layer is deposited to a thickness not exceeding about 50 Angstroms.

45. (Original) The method of claim 44, wherein said contacting is performed at a flow rate for said nitrous oxide within the range of about 1 to 10 slm.

46. (Original) The method of claim 45, wherein said contacting is performed at a flow rate for said oxygen at a flow rate within the range of about 4 to 8 slm.

47. (Original The method of claim 46, wherein said flow rate for said nitrous oxide is greater than the flow rate for said oxygen.

48. (Original) The method of claim 47, wherein the ratio of nitrous oxide to oxygen and hydrogen respectively is in the range of about 0.05 to about 1.7.

49. (Original) The method of claim 48, wherein said flow rate for said nitrous oxide is at least greater than the flow rate for said oxygen.

50. (Original) The method of claim 40, wherein said contacting is performed at a temperature within the range of about 700 to 800°C.

51. (Original) The method of claim 50, wherein said contacting is performed at a gas flow rate for each of said hydrogen and oxygen gases which is within the range of about 4 to 8 slm.

52. (Original) The method of claim 51, wherein said contacting is performed at a gas flow rate for said nitrous oxide gas which is at least about 2.5 slm.

53. (Original) The method of claim 52, wherein said contacting is performed at a gas flow rate for said nitrous oxide which is at least about 5 slm.

54. (Original) The method of claim 53, wherein said contacting is performed at a gas flow rate for said nitrous oxide which is at least about 10 slm.

55. (Original) The method of claim 52, wherein said contacting is performed at a gas flow rate for each of said hydrogen and oxygen gases which is about 6 slm.

56. (Original) The method of claim 50, wherein said silicon nitride layer is deposited to a thickness of about 45 to 50 Angstroms.

57. (Original) The method of claim 56, wherein said oxidation layer is formed to a thickness less than about 5 Angstroms.

58. (Original) The method of claim 57, wherein said oxidation layer is formed to a thickness less than about 3 Angstroms.

59. (Original) The method of claim 50, wherein said contacting is performed at a gas flow rate of about 6 slm for each of said hydrogen and oxygen gases, and at a gas flow rate within the range of about 2.5 to 10 slm for said nitrous oxide gas.

Claims 60-95. (Canceled)